

WHAT IS CLAIMED IS:

1. A method for detecting an object image within image data comprising:
receiving image data;
segmenting the image data into multiple windows;
determining a likelihood that each window contains the object, and probability rank
ordering the multiple windows based on the step of determining; and
selecting a predetermined one of the multiple windows as a window wherein the
object image is considered to reside.
2. The method of claim 1 wherein the receiving step comprises:
collecting and recording the image data as the data emanates back to a receiver.
3. The process of claim 1, wherein the step of segmenting comprises:
determining a set of image metric data;
applying selection criteria to filter false detections and clutter from the image data;
comparing image data, after applying the selection criteria, with the image metric
data; and
applying morphological operators on the image data.
4. The process of claim 1, comprising:
displaying at least one of the multiple windows.

5. The process of claim 2, comprising:
identifying pixels having a lighter contrast compared to other pixels in the imagery.

6. The process of claim 2, comprising:
identifying pixels having a darker contrast compared to other pixels in the imagery.

7. The process of claim 2, comprising:
identifying pixels having both lighter and darker contrast compared to other pixels
in the imagery.

8. The process of claim 2, comprising:
using a morphological operator to isolate targets from their background.

9. The process of claim 2, comprising:
filtering the image data using two concatenated morphological filters.

10. The process of claim 2, comprising:
detecting spatial discontinuities at a pixel level.

11. The process of claim 2, comprising:
presenting the image data of multiple windows on a display in a mosaic format.

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12. The process of claim 2, comprising:

communicating the detected window images to another system.

13. The process of claim 2, comprising:

the processing of image data comprising visual data.

14. The process of claim 2, comprising:

the processing of image data comprising thermal data.

15. The process of claim 2, comprising:

the processing of image data comprising synthetic aperture radar (SAR) data.

16. A target detection process comprising:

acquiring image data;

down-sampling the image data n-times;

processing the down-sampled image data for detecting at least one of a light target
and a dark target;

labeling subsets of the image data that may contain target data and rejecting clutter
associated with these subsets of the image data;

combining results of the image data that has been down-sampled; and

forwarding combined results to a decision making authority.

17. The process of claim 15, comprising:

a decision making authority that extracts windows and rank orders them.

18. The process of claim 15, comprising:

an image that is down-sampled n-times using a series of low pass filters that can filter in a horizontal and vertical direction.

19. The process of claim 15, comprising:

an image that has been down-sampled n-times, where n comprises a large number that can still accomplish target detection after accomplishing a larger amount of down-sampling.

20. The process of claim 15, comprising:

a filtering process performed by a six by six (6x6) convolution filter.

21. The process of claim 15, comprising:

a filtering process performed by an N by N convolution filter, where N is a number greater than or equal to one.